

CLAIMS

1. A mold for in-mold decoration, comprising: a stationary-side mold (2, 102); and a movable-side mold (1, 101), at least one of the molds having: a cavity-forming block (3, 21, 121, 131) including a molding-use cavity (28, 58, 128, 138); and a dieset (7, 10, 107, 110) for mounting the cavity-forming block, in which a decorating film (13) is disposed in between both the molds in a state that a design pattern (221) of the decorating film (13) is positioned at the cavity (28, 58, 128, 138), and molten resin is injected to the cavity (28, 58, 128, 138) so as to mold a molded article, wherein

the dieset (7, 10, 107, 110) for mounting the cavity-forming block comprises: a mounting face (7a, 10a, 107a) which are positioned on a face opposed to the other mold so as to overlap with a passing region of the decorating film (13) and which are formed smoothly; and a mold clamping force-receiving portion (6a, 6b, 112a, 112b) provided outside the passing region of the decorating film and the mounting face in a way almost symmetrical with respect to a center line of the one mold along a passing direction of the decorating film, and

either one of the dieset (7, 10, 107, 110) and the cavity-forming block (3, 21, 121, 131) has an engagement protruding portion (4, 44, 104, 144) while the

other has an engagement recess portion (5, 105) which engages with the engagement protruding portion (4, 44, 104, 144), the engagement protruding portion (4, 44, 104, 144) is engaged with the engagement recess portion (5, 105) so
5 that the cavity-forming block (3, 21, 121, 131) is positioned at the mounting face (7a, 10a, 107a) of the dieset and the cavity-forming block is mounted on the dieset (7, 10, 107, 110).

2. The mold for in-mold decoration as defined in
10 Claim 1, wherein

one of the engagement protruding portion (4, 44, 104, 144) and the engagement recess portion (5, 105) is provided on the mounting face (7a, 10a, 107a) while the other is provided on a back face (38) of the cavity forming
15 side face of the cavity-forming block,

on the mounting face or the back face side, the recess portion (5) is formed into a long hole which is long in radiating direction from an injection port provided on the dieset (10) for injecting the molten resin into the
20 cavity or from a position or a corresponding position at which a sprue of the cavity-forming block (21) for feeding the molten resin from the injection port to the cavity is provided, and a longitudinal inner wall (5d) of the engagement recess portion is structured to be in contact
25 with the engagement protruding portion when the cavity-

forming block is mounted on the mount.

3. The mold for in-mold decoration as defined in Claim 2, wherein the engagement protruding portion (4, 44) is provided on the mounting face (7a, 10a), while the
5 recess portion (5) is provided on the back face side (38).

4. The mold for in-mold decoration as defined in Claim 1, further comprising a clearance (75) inside the passing region of the decorating film for interposing the decorating film therein in a state that both the molds are
10 closed.

5. The mold for in-mold decoration as defined in Claim 4, wherein the clearance (75) is formed by setting a surface (3a, 21a) of the cavity forming side on the cavity-forming block (3, 21) of the one mold to be lower than an
15 opposed face (6f) of the clamping force-receiving portions (6a, 6b) opposed to the other mold when viewed from the mounting face (7a, 10a).

6. The mold for in-mold decoration as defined in Claim 4 or 5, wherein the clearance (75) is dimensioned so
20 that clamping force of both the molds is not exerted on the decoration film (13).

7. The mold for in-mold decoration as defined in Claim 4 or 5, wherein the clearance (75) is dimensioned to be almost identical to a thickness of the decoration film
25 (13).

8. The mold for in-mold decoration as defined in Claim 1, wherein the mounting face is provided on a face of the dieset opposed to the other mold and is also provided on a plane identical to a smoothing face (7b, 10b, 107b, 110b) smoothed together with the mounting face.

9. The mold for in-mold decoration as defined in Claim 1, wherein the clamping force-receiving portion (112a, 112b) is formed integrally with the dieset (107, 110).

10. The mold for in-mold decoration as defined in Claim 1, further comprising a clamp (9) in the movable-side mold for retaining the decorating film (13) in a state that a design pattern (221) of the decorating film (13) is positioned inside the cavity, the clamp (9) being supported by the cavity-forming block (3).

11. The mold for in-mold decoration as defined in Claim 1, further comprising a clamp (109) in the movable-side mold for retaining the decorating film (13) in a state that a design pattern (221) of the decorating film (13) is positioned inside the cavity, the clamp (9) being supported by the clamping force-receiving portion (112a).

12. The mold for in-mold decoration as defined in Claim 1, wherein the cavity-forming block (3, 21, 121, 131) has a coolant pipeline (3c, 21c) for cooling the molten resin injected into the cavity, the coolant pipeline (3c, 21c) being directly connected to a coolant feeder (203).

13. The mold for in-mold decoration as defined in Claim 1, wherein the clamping force-receiving portion (6a, 6b) is provided away from the cavity-forming block (3, 21).